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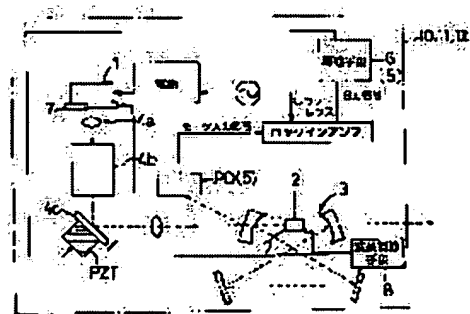
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(54) LASER OSCILLATION DEVICE AND LIGHT SOURCE FOR MEASURING COLOR USING THE SAME

(57)Abstract:

PURPOSE: To obtain a laser oscillation device which is a single laser oscillation device but can adjust oscillation wavelength to a desired value variably by providing a temperature-adjusting means and a wavelength-adjusting means.

CONSTITUTION: A flux of output light from an infrared ray semiconductor laser with a wavelength of 980nm which is a laser oscillator 1 is applied to a nonlinear optical element 2 for generating high harmonics and a resonator 3 within a light path. A second high harmonic with a wavelength of  $980/2\text{nm}$  is generated by a crystal body KNbO<sub>3</sub> of the element 2 and then the resonance state is maintained stably by a stabilization means 5 and a flux of light with the frequency is output. The crystal body KNbO<sub>3</sub> which is the oscillator 1 and the element 2 is mounted on Peltier element as a means 7 for adjusting temperature. By adjusting the temperature of the Peltier element, the excitation state of the temperature-dependent oscillator 1 is changed and then the wavelength of the flux of output light is controlled variably within  $\pm$  several nm. On the other hand, a wavelength adjusting means 8 constantly outputs a second harmonic with a constant amplitude or larger following the changed wavelength.



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